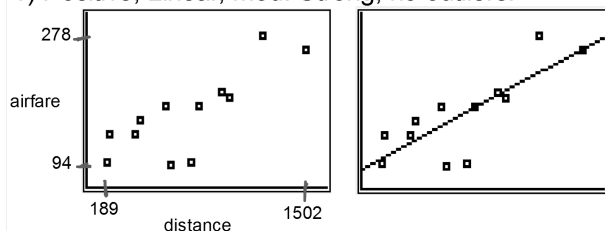


Answers to worksheet:

1) Positive, Linear, Mod. Strong, no outliers.



$$\widehat{\text{airfare}} = 83.267 + 0.1174(\text{distance})$$

$$r = 0.795 \quad r^2 = 63.2\%$$

$$3) \text{airfare} = 83.267 + 0.1174(370)$$

$$\text{airfare} = \$126.70$$

$$\text{residual} = \$138 - \$126.70 = \$11.30$$

4) underestimate (prediction < actual)

$$5) \text{airfare} = 83.267 + 0.1174(2842)$$

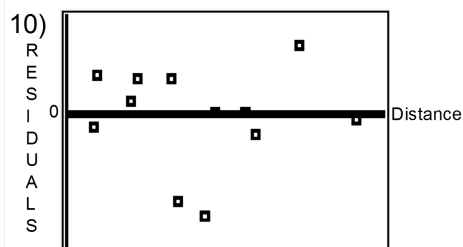
$$\text{airfare} = \$416.85$$

6) NO! Extrapolation. 2842 would be an outlier in the X-variable.

7) For every 1 mile traveled on a flight, the airfare increases by \$0.1174 (or \$0.12) on average.

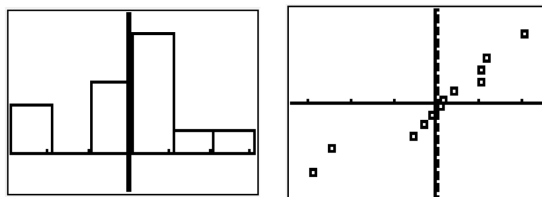
8) \$11.74 or \$12.00

9) 63.2% of the variability in airfares is explained by the variability in distance flown.



11) Residual plot = scattered, therefore the line is a good model for our data. Also, the r and r^2 are high and the original scatterplot was linear, indicating the linear model is a good fit overall.

12)



More review:

13) What is the LSRL equation?

$$\widehat{\text{No opinion}} = 7.69262 - 0.042708(\text{year})$$

14) What is the correlation? the r^2 ?

$$r = -0.3082$$

$$r^2 = 9.5\% = 0.095$$

Dependent variable is: No Opinion

R-squared = 9.5%

~~$s = 2.280$ with $16 - 2 = 14$ degrees of freedom~~

Variable	Coefficient	SE(Coeff)	t-ratio	P-value
Intercept	7.69262	2.445	3.15	0.0071
Year	-0.042708	0.0353	-1.21	0.2458